

Atty. Docket No. IDF 1415 (4000-00900)

*Patent***REMARKS/ARGUMENT*****Status of claims***

Claims 1-14 are currently pending in this application. Claims 1, 9 and 14 have been amended.

35 USC § 103 Rejection

Claims 1-14 stand rejected under 35 USC §103(a) as being unpatentable over *Hartley* (6,532,465) in view of *McComb* (6,006,224). Applicants respectfully submit that a prima facie case of obviousness does not exist as there is no teaching or suggestion to combine *Hartley* and *McComb*. Applicants note the Examiner's statement that an additional abstraction layer between the domain object factory and the business component as provided by the database wrapper has been considered by is not deemed persuasive because an additional abstraction layer is not recited in the rejected claims. In response, Applicants have amended independent claims 1, 9, and 14 to recite "wherein the database wrapper provides an abstraction layer between the domain object factory and the business component." Furthermore, Applicants submit herewith a copy of Exhibit 1 which was referred to in the previous response to office action dated July 25, 2003, but was inadvertently omitted from the response upon submission. Exhibit 1 clearly shows the additional abstraction layer now recited, and how such relates to the prior art of record.

Applicants agree with the Examiner's observation that *Hartley* does not disclose the presence or use of a database wrapper, which is an element of independent claims 1, 9, and 14. *Hartley* discloses a computerized billing system wherein certain generic computational functionality is placed in modules referred to as processing engines, which are accessible by other modules that apply the rules and methods specific to a given user's billing requirements (see col. 7, lines 12-64). More simply, *Hartley* recognizes that billing systems vary by type of company, for example a telephone company will have different billing requirements than a manufacturing company (see Background). Furthermore, *Hartley* recognizes that the differences in such billing systems have historically required a great deal of custom programming. The focus of *Hartley* is to simplify programming by identifying and placing certain functionality (for example, rate calculations) that is generic to billing systems into individual processing engines (analogous to

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individual calculators) that can be used and reused as needed during implementation of a billing system to meet the particular needs of a company.

Referring to Figs. 4 and 5, *Hartley* shows the mapping of a business component to a domain object, and the further mapping of a domain object to a corresponding underlying database. *Hartley* does not teach or suggest an additional abstraction layer between the domain object factory and the business component as provided by the database wrapper recited in Applicants' independent claims 1, 9, and 14. In order to show the missing element more clearly, Applicants provide herewith Exhibit 1, which is a copy of Fig. 5 of *Hartley* with handwritten additions showing a hypothetical combination of Applicants' invention with *Hartley*. In such a combination, Applicants' invention would provide the business component 5 with a common interface 10 to a plurality of underlying datastores 15, 20, and 25, for example relational databases, object databases, or combinations thereof. The common interface is achieved through use of the database wrapper, as explained in detail by Applicants on page 16:

Since a domain object factory implementation is specific to a given datastore, there must be a factory, herein referred to as a database wrapper, for the domain object factories. This is also parallel to the domain object framework. Preferably, a business component does not directly instantiate a domain object factory.

The Examiner relies upon *McComb* as providing the missing database wrapper element. Applicants agree that a database wrapper 202 is disclosed in Fig. 2 and related text, but respectfully disagree that *McComb* provides any motivation or suggestion to combine a database wrapper with the other elements in the manner disclosed and claimed by Applicants. *McComb* discloses a system for querying a database to retrieve information there from, wherein the improvement is to save the query itself in the database as part of the query process such that the substance of the query can be retrieved later and efficiently reused (see e.g., col. 5, lines 29-36). In carrying out the invention, database wrapper 202 is used to access data from underlying database 201, specifically to map the query language directly to the underlying database (see col. 7, lines 55-59). *McComb* does **NOT** teach the use of a database wrapper to encapsulate a domain object factory as recited in Applicants' claims, and in fact *McComb* contains no references whatsoever to domain objects.

The Examiner relies upon the generic teaching at col. 6, line 14-17 that "[a] 'wrapper' comprises re-usable code that encapsulates procedural code in an application" such that "[o]nce

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encapsulated the item becomes an object." This text merely states the obvious in that it describes the functionality of a given element, but does not teach or suggest the specific combination of elements to achieve the desired results disclosed and claimed by applicants. The recited text is akin to saying "database wrappers wrap databases," which is true but of little instructive value, and certainly not a teaching or suggestion to modify *Hartley* by encapsulating a domain object factory in the context of isolating a business component from specific implementations of one or more datastores. The Examiner must consider Applicants' claimed invention as a whole (see 35 USC §103), and upon doing so, it becomes evident that there is no teaching or suggestion in the prior art to use an additional abstraction layer, namely a database wrapper as a factory for domain object factories, thereby providing a business component with a common interface to a variety of underlying datastores.

In short, the prior art does not provide the requisite suggestion or motivation to combine to establish a prima facie case of obviousness. There is no express or inherent motivation to combine *Hartley* and *McComb* as the two address completely different computing problems than that addressed by Applicants, namely *Hartley* is drawn to efficient reuse of calculating modules in a billing system and *McComb* is drawn to the efficient reuse of database queries. Thus, neither *Hartley* nor *McComb* provide any inherent or express motivation or suggestion regarding the need for or how to provide a business component with a common interface to a variety of underlying datastores. Applicants respectfully submit that a prima facie case of obviousness does not exist as there is no teaching or suggestion to combine *Hartley* and *McComb*, and therefore claims 1-14 are patentable.

Claims 5 and 10 stand further rejected under 35 USC §103(a) as being unpatentable over *Hartley* (6,532,465) in view of *McComb* (6,006,224), and in further view of *Brownell* (6,006,224). Applicants respectfully submit that a prima facie case of obviousness does not exist as there is no teaching or suggestion to combine *Hartley* and *McComb*, as discussed previously, and no teaching or suggestion to further combine *Brownell*.

Applicants agree with the Examiner's observation that the combination of *Hartley* and *McComb* (although improper) does not disclose conversion of the domain object/data from a persistent state to a transient state, which is an additional element of dependent claims 5 and 10. The text at col. 11, lines 1-17 of *Brownell* relied upon by the Examiner appears to show the

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conversion of an object from a persistent state to a transient state, but not in the specific context of the claimed datastore encapsulation method. More specifically, the text does not show the conversion of a domain object generated by a domain object factory as recited in Applicants' claims.

Furthermore, Applicants respectfully submit that *Brownell* cannot fairly be read as providing the requisite suggestion or motivation for the combination of *Hartley*, *McComb*, and *Brownell*. *Brownell* is drawn to system for managing transient and persistent distributed objects, but discloses nothing about combining or using such systems in a manner as described and claimed by Applicants for datastore encapsulation. At best, *Brownell* teaches that objects can be made persistent and/or transient, but provides no teaching or suggestion for the novel use and combination recited in Applicants' claims. Again, Applicants' invention as a whole must be obvious from the prior art. With due respect, the Examiner appears to be impermissibly picking and choosing individual elements in various references and stringing them together without a teaching or suggestion for the combination as a whole. This patchwork of individual elements from three disparate references lacking any common thread or teaching is insufficient to teach or suggest Applicants' claimed combination as a whole. As a result, Applicants respectfully submit that a prima facie case of obviousness does not exist as there is no teaching or suggestion to combine *Hartley*, *McComb*, and *Brownell* and that claims 5 and 10 are patentable."

In view of the claim amendments herein, Exhibit 1, and the foregoing explanation of the prior art, Applicants respectfully request that the Examiner withdraw the rejections to claims 1-14 and allow such claims.

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*Patent***CONCLUSION**

The Commissioner is hereby authorized to charge payment of any further fees associated with any of the foregoing papers submitted herewith, or to credit any overpayment thereof, to Deposit Account No. 21-0765, Sprint.

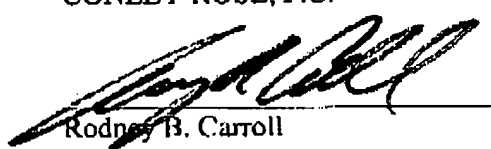
Applicants respectfully submit that the present application as amended is in condition for allowance. If the Examiner has any questions or comments or otherwise feels it would be helpful in expediting the application, he is encouraged to telephone the undersigned at (972) 731-2288.

Respectfully submitted,

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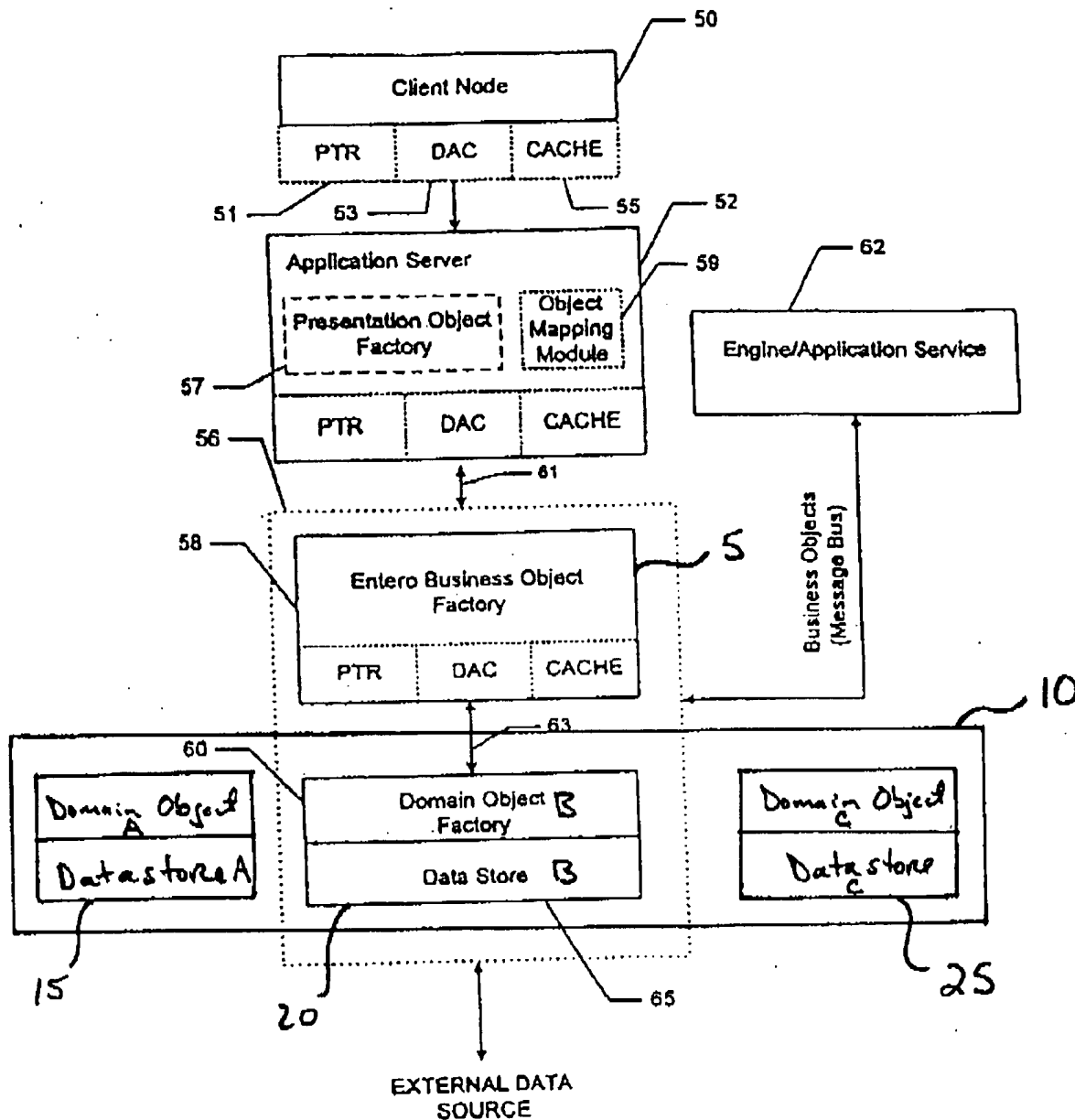


FIG. 5

Serial No.

D9/579,623

Exhibit 1